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**United States Patent** [19]**Bowersock et al.**[11] **Patent Number:** **5,674,495**[45] **Date of Patent:** **Oct. 7, 1997**[54] **ALGINATE-BASED VACCINE COMPOSITIONS**[75] **Inventors:** **Terry L. Bowersock; Kinam Park; Robert E. Porter, Jr.**, all of West Lafayette, Ind.[73] **Assignee:** **Purdue Research Foundation**, West Lafayette, Ind.[21] **Appl. No.:** **394,802**[22] **Filed:** **Feb. 27, 1995**[51] **Int. Cl.<sup>6</sup>** ..... **A61K 39/00; A61K 45/00; A61K 39/02; A61F 13/00**[52] **U.S. Cl.** ..... **424/184.1; 424/278.1; 424/234.1; 424/280.1; 424/281.1; 424/424; 424/434; 424/438; 424/480; 424/492**[58] **Field of Search** ..... **424/184.1, 278.1, 424/234.1, 280.1, 281.1, 282.1, 434, 424, 438, 480, 492, 813, 823; 530/817**[56] **References Cited****U.S. PATENT DOCUMENTS**

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A vaccine composition including an antigen dispersed in an alginate gel is described. The alginate gel is preferably in the form of discrete particles coated with a polymer. Vaccination of vertebrate species can be accomplished by administering the alginate-based vaccine compositions orally.

**17 Claims, No Drawings**